

Funding Methods and Revenue Generating Capacity

July 1, 2004

Executive Summary

The purpose of this paper is to examine the funding mechanisms available to Fairfax County to support its stormwater management program. The information is intended for use by the County to help make policy decisions regarding the right mix of funding tools to achieve the County's target level of service. The paper helps to highlight issues of funding equity (linking revenue sources with revenue beneficiaries) and funding adequacy (the ability of a potential source to produce sufficient and stable revenue). The paper also divides revenue into those with the capacity to fund an entire program (primary sources), and those with the capacity to fund specific program elements (secondary sources).

While there are several potential secondary sources of revenue discussed in this paper, there are only two commonly recognized primary sources of revenue for stormwater management that are at the County's disposal. These are the General Fund, supported primarily through the real property tax, and a stormwater utility fee. As a result, after considering how secondary sources can fund specific program elements, the County's major options for stormwater funding include the following:

- Maintain the status quo.
- Shift existing General Funds from other programs to stormwater management.
- Raise real property taxes and dedicate a portion to stormwater management.
- Implement a dedicated stormwater utility fee.

A. Overview of Stormwater Funding Mechanisms

Fairfax County has several funding options available by Virginia statute. However, standards and limitations exist that influence the viability of these different funding mechanisms. Stormwater funding mechanisms commonly used by local governments in the United States include taxes (e.g., on property, retail sales, real property sales, income, and business gross or net profits taxes), exactions, special assessments, and service fees (sometimes also termed user fees or service charges). Each has a different underlying philosophy that guides the structure of the funding mechanism and the use of the revenues.

Funding mechanisms can also be distinguished as *ad valorem* or *non-ad valorem*. *Ad valorem* simply indicates that something is imposed based on a percent of value. By contrast, *non-ad valorem* is associated with or conditioned upon the performance of an act, the engaging in an occupation, or the enjoyment of a privilege. The following is a brief overview of the different types of funding mechanisms.



Table 1: Summary of Common Stormwater Funding Mechanisms

Taxes	Most general purpose local governmental functions are primarily funded through taxes that simply generate revenue. For example, an ad-valorem property tax is often imposed upon real (and sometimes personal) property based on its value. The purpose is simply to provide revenue to defray the expenses of general government, as distinguished from the expense of a specific function or service. It is not necessary for a tax to have a demonstrable association with any particular purpose or function.
Exaction	An exaction, or excise tax, is most commonly associated with franchise rights and development-related activities or impacts. Over many years the term has come to mean and include practically any tax that is not an ad-valorem tax. An example is a franchise fee on a cable utility. The franchise fee is imposed based on the privilege of running wires along public rights-of-way, rather than any assessment of the value of the information transmitted. However, like other taxes, the ultimate use of the revenue does not need to be associated with its source.
Special Assessment	The essential characteristic of a special assessment is that it must confer some direct and special benefit to the property being assessed. A special assessment is based on the premise that the property assessed is enhanced in value at least to the amount of the assessment. Like service fees, special assessments are intended for a specific purpose rather than simply as a revenue generating mechanism. Assessments may be based on property value (ad valorem) or other factors (non-ad valorem) such as frontage along a street or sidewalk improvement.
Service Fee/ Stormwater Utility	A stormwater service fee, often referred to as a stormwater utility, is funded primarily through service or user fees or charges that are related to the cost of providing the services and facilities. Funding stormwater programs through dedicated enterprise accounting provides a mechanism for receipt and allocation of multiple revenue sources dedicated to stormwater management. A service fee is imposed on persons or properties for the purpose of recovering the cost of providing service. A stormwater service charge rate methodology is adopted to set the appropriate fees and charges.

The stormwater funding options available to Fairfax County can also be described as “primary” and “secondary.” Primary methods have the capacity to support the entire program, while secondary methods are applicable to special needs or situations, but are not capable of funding a full program. The primary funding methods discussed in this paper might be used as the sole sources of funding for a program, but are more typically used in combination with secondary sources.



Table 2: Primary and Secondary Stormwater Funding Mechanisms

Primary Funding Methods	Secondary Funding Methods
General Fund Appropriations Stormwater Service Fees (Stormwater Utility)	Other Service Fees Special Assessments Pro Rata Shares Watershed Improvement Districts Federal and State Funding/Grants/Loans In-Lieu-Of-Construction Fees General Obligation and Revenue Bonding

Local governments across the United States have used all the funding mechanisms examined in this paper to some degree. Legislative and/or charter authority and the mission and priorities in each community have guided the selection of a preferred approach. There is no single funding mechanism that is best in every setting. Some funding sources are better suited to operations and maintenance, while others are used strictly for capital improvements. Adequate, consistent funding of a stormwater program is more important to the long-term success of the effort than the actual source of revenue. The following sections provide a synopsis of each of the primary and secondary funding mechanisms available in Virginia. Where applicable, each synopsis provides a description of how the revenue source has been used in Fairfax County to support the stormwater program.

B. Primary Funding Methods

General Fund Appropriations

The majority of General Fund revenues in most Virginia localities are derived primarily from real property taxes. This is true in Fairfax County, where real property taxes comprise 60.7% of General Fund revenues. Other major sources of General Fund revenues in Fairfax County include personal property taxes (17.1% including reimbursements from Virginia as a result of the Personal Property Tax Relief Act of 1998) and other local taxes (14% including the local sales tax and Business, Professional, and Occupational Licenses). The demands on the stormwater system placed by a specific parcel have little relationship to property values or business sales activity levels. The system requirements are a function of the peak rate and total amount of stormwater runoff that must be carried safely through the community. Typically, the revenue sources that support the General Fund are based on a “taxation” philosophy – the purpose of which is simply to raise revenue. It is not necessary that there be any association or relationship between the source of revenue and the purpose to which it is applied.

Using General Fund appropriations for stormwater management also produces a level of inequity in that some properties that place demands on the system may be exempt from property taxes. For instance, §58.1-3609 *et seq* of the Code of Virginia exempts a range of religious, charitable, patriotic, historical, benevolent, cultural, and public park and playground uses from real and personal property taxes. As a result, they do not participate in funding stormwater management through the General Fund. Similarly, some private properties, e.g. parking lots and storage warehouses that have large expanses of



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impervious coverage, do not pay real property taxes commensurate with the demands they impose on the stormwater system. Conversely, some properties that have little impact on stormwater runoff but pay proportionately higher property taxes are paying more for stormwater management through the General Fund than they would through funding methods based on the actual demands they place on the system.

General Fund appropriations for any specific purpose can also be highly uncertain from year to year, as revenue is not dedicated to any specific purpose. Allocations shift with real and perceived priorities. Stormwater management needs are likely to receive a higher priority in a year following severe storms and drainage problems than in a year following a drought. This makes it difficult to engage in long-term planning for the program.

One option often considered by local governments to provide a source of revenue for stormwater functions is to dedicate a portion of the real property tax. A unique example is Prince George's County, Maryland, which taxes real property at a rate of \$0.135 per \$100 of assessed value for stormwater management. It is important to note that the funding generated by this tax is set aside in an enterprise fund that must be used for stormwater by State law. The funding scheme is unique in that the tax was established by Maryland when the Washington Suburban Sanitation Commission (WSSC) had responsibility for stormwater in the County. This authority was then transferred to Prince George's County. There is no parallel enabling authority established in Virginia.

In Virginia, the City of Fairfax established a separate stormwater management fund in the mid-1990s that is funded through the real property tax. The portion of the real property tax going to the fund is determined each year by the City Council based on the fund balance versus the needs contained in the City's stormwater capital program. The capital program was first developed in 1991, and is periodically re-assessed. During the first few years of program implementation, the dedicated portion of the real property tax ranged from \$0.01 to \$0.02 per \$100 of assessed value. However, there is currently an unspent balance in the fund, and no allocations have been made in the past few years. If additional project needs arise, then additional funds may be allocated. Unlike Prince George's County, the portion of the real property tax going to stormwater in the City of Fairfax is not presented as a separate tax, but is simply a part of the overall budget deliberations. Therefore, stormwater funding is still subject to competition with other budget priorities.

Application in Fairfax County Fairfax County's existing stormwater management program is largely funded through General Fund appropriations. The General Fund could potentially support an increase in spending on stormwater programs either through a tax increase or through reallocation of current resources. Reductions in other services funded from the General Fund to avoid a tax increase may or may not be publicly acceptable. The Fairfax County Board of Supervisors adopted an FY 2005 real property tax rate of \$1.13 per \$100 of assessed value, which was reduced from the FY 2004 rate of \$1.16. At FY 2005 real property values, each penny the tax rate is increased results in approximately \$14.5 million in revenue generated.



Stormwater Service Fees (Stormwater Utility)

Service fees are becoming an increasingly popular source of dedicated stormwater funding, with over 500 in existence throughout the United States. In Virginia, stormwater service fees must be based on some measure of a property's contribution to stormwater runoff. Table 3 presents Virginia's stormwater utility enabling legislation.



Table 3: Stormwater Utility Enabling Legislation

The enabling legislation for stormwater utilities in Virginia (Code of Virginia §15.2-2114) specifically states that:

1. A utility can be established, by ordinance, to cover the following costs:
 - a. Acquisition of real and personal property to construct, operate and maintain stormwater control facilities;
 - b. Cost of administering programs;
 - c. Engineering and design, debt retirement, construction costs for new facilities and enlargement or improvement of existing facilities;
 - d. Facility maintenance;
 - e. Monitoring of stormwater control devices;
 - f. Pollution control and abatement, consistent with state and federal regulations;
 - g. Planning, design, land acquisition, construction, operation and maintenance activities.
2. Charges shall be based on contributions to stormwater runoff.
3. Charges may be assessed to property owners or to occupants, including condominium unit owners or tenants (if tenant is the one who is being billed for water and sewer).
4. Utility shall waive charges in the following cases:
 - a. From federal, state and local government agencies, when the agency owns and provides for maintenance of storm drainage and stormwater control facilities or is a unit of the locality administering the program.
 - b. From roads and public street rights-of-way that are owned and maintained by state and local agencies.
5. Utility may waive charges, partially or in full in the following case:
 - a. From cemeteries.
 - b. From any person who owns and provides for complete private maintenance of storm drainage and stormwater facilities, provided such person has developed so that there is a permanent reduction in post-development stormwater flow and pollutant loading.
6. Locality may issue general obligation bonds or revenue bonds to finance the cost of infrastructure and equipment for a stormwater control program.
7. In case of failure to pay fees, the agency can charge interest on past due amounts and can recover by action of law or suit in equity and shall constitute a lien against the property, ranking on parity with liens for unpaid taxes.

The general standard applied to utility fees is that the rate methodology must be fair and reasonable, and resultant charges must bear a substantial relationship to the cost of providing services. However, the local government has a great deal of flexibility in attaining these objectives in the context of local circumstances. When stormwater utility rates have been subjected to legal challenges, the courts have tended to apply “judicial deference” to the decisions of locally elected officials. Under judicial deference, the courts will not intervene unless a plaintiff can demonstrate that the decision was arrived at arbitrarily and capriciously or that the result of the decision discriminates illegally.

Stormwater service fees typically provide more stable revenue than other funding options, offer the opportunity to design a service fee rate methodology that results in an equitable allocation of the cost of services and facilities, and, in some cases, can provide an opportunity to shift a portion of the community’s stormwater management burden away from the General Fund. Service fee rate structures are designed to recover costs based on the demands placed on the stormwater systems and programs.



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Based on an analysis by AMEC Earth & Environmental, Inc., the average single-family stormwater utility charge nation-wide is \$3.05 per month. Table 4 provides information on existing stormwater utilities in Virginia.

Table 4: Fiscal Year 2003-2004 Data on Stormwater Utilities in Virginia

Locality	NPDES Phase I / Phase II	Single-Family Residential Stormwater Fee	Commercial Stormwater Fee Per Month	Total Annual Revenue Generated
City of Norfolk, VA	Phase I	\$5.40/month	\$0.124 per 2,000 sq. ft. of impervious area	\$7.4 million
City of Virginia Beach, VA	Phase I	\$4.29/month	\$4.29 per 2,269 sq. ft. of impervious area	\$12.7 million
City of Portsmouth, VA	Phase I	\$3.50/month	\$3.50 per 1,877 sq. ft. of impervious area	\$2.6 million
City of Newport News, VA	Phase I	\$3.10/month <i>See note 1.</i>	\$3.10 per 1,777 sq. ft. of impervious area	\$5.5 million
City of Hampton, VA	Phase I	\$3.50/month	\$3.50 per 2,429 sq. ft. of impervious area	\$3.7 million
City of Chesapeake, VA	Phase I	\$2.55/month	\$2.55 per 2,112 sq. ft. of impervious area	\$4.2 million
Prince William County, VA	Phase I	\$1.73/month <i>See note 2.</i>	\$0.84 per 1,000 sq. ft. of impervious area	\$2.8 million

Note 1: The City of Newport News bills multifamily residences at 0.42 ERUs, or \$1.30 per month.

Note 2: Prince William County bills apartments, condominiums, and townhomes at $\frac{3}{4}$ of the single family rate, or \$1.2975/month. Prince William County's single-family residential ERU equals 2,059 sq. ft. of impervious area.

The revenue generation capacity of a stormwater utility is similar to that of the real property tax, except that the utility fee is directly linked to impervious surface cover or another measurable characteristic, rather than assessed value. Determining a legally defensible rate needed to generate revenue sufficient to finance the County's stormwater needs would require the County to engage in a "stormwater utility rate study." During this study, important policy decisions are made that can have significant implications for the selected rate. An important first step in the process is to determine the average impervious land cover in square feet for a single-family residential lot. Although it is common for all single-family lots to be charged a flat fee, the Equivalent Residential Unit (ERU) is applied to all other classifications of land. For example, if the ERU is 2,000 square feet of impervious surface, and the fee is \$2, a commercial lot with 10,000 square feet of impervious surface cover would pay \$10 ($10,000/2,000 = 5$ ERUs multiplied by \$2).

In addition to technical determinations, the County must address a range of policy questions that ultimately impact the structure of the utility, as well as the stormwater utility rate. Major policies questions are presented in Table 5.



Table 5: Policy Decisions Affecting Utility Rate and Structure**Policy Decisions Affecting Utility Rate and Structure**

1. **Program:** Will all, or only part of the current program/service elements identified in the program evaluation be shifted to the enterprise fund?
2. **General Fund:** Will the utility pay for services received from the General Fund such as general overhead? (Indirect Cost Allocation)
3. **Special Fees and Other Revenues:** What additional revenue sources will be used, or created, to support stormwater programs that may result in a more equitable distribution of costs (existing or future increases in fees for erosion and sediment control; fees for inspection of private BMPs; grants, etc.)?
4. **Financial Factors:** What is the fund balance test that must be maintained by the enterprise fund? Is interest earned by the cash flow from the utility credited to the enterprise fund? What is the “bad debt” factor (based on history of collecting fees)? Are fund balances appropriated in the following year?
5. **Reserves:** Will an emergency reserve be established to address catastrophic system failures? What level of operating reserve will be maintained?
6. **Bonds:** Will bonds be used to pay for the capital improvements program?
7. **Rate Allocation:** Will gross lot area be utilized along with imperviousness in the rate methodology?
8. **Exemptions:** Will exemptions be established other than those legally mandated by state statute?
9. **Credit Policy:** What will be considered for “credits” (i.e., stormwater management facilities that treat and/or detain stormwater from a specific site or sites) under the program?
10. **Billing:** What portion of the billing costs will be transferred to the stormwater enterprise fund? What portion of customer service costs will be transferred to the utility?
11. **Rate Policy:** Is it a goal that the rate be held constant for 3 years? Or 5 years? Or will the rate be adjusted annually?
12. **Bill Receipt:** Who will receive the bill, owners or current utility customers (such as renters and leasers)?

All of these policy decisions will need to be considered as part of a rate study should the County decide to pursue the implementation of a stormwater utility.

Application in Fairfax County A stormwater utility fee has not been implemented in Fairfax County. However, the potential implementation of a utility fee has been the subject of several County studies.



C. Secondary Funding Methods

Plan Review, Development Inspection, and Special Inspection Fees

Most jurisdictions offset, at least in part, the cost to review plans and issues permits related to stormwater management by imposing various fees.

Application in Fairfax County In Fairfax County, the Office of Site Development Services is responsible for applying most environmental and stormwater related fees. For example, review of a Water Quality Impact Assessment under the County's Chesapeake Bay Preservation Ordinance is partially offset by a \$175 application fee. Similarly, a fee of \$800 must be submitted to cover the costs associated with drainage studies. Various plan review fees are contained in Section 104-1-3 of the County Code. By July 2006, Fairfax County will also begin collecting fees for Virginia Pollutant Discharge Elimination System (VPDES) stormwater construction permits. Responsibility for implementing this program will be transferred from the Virginia Department of Environmental Quality to Fairfax County under HB 1177 passed by the General Assembly in 2004. How much this new program will cost the County will depend on the fee amount, which is set through a State regulatory process.



At present, the County estimates that fees recuperate approximately 80% of the cost of providing specific services. Overall, however, these fees do not represent a major source of revenue. Although increased fees are an option, limitations in the amount of development will necessarily limit the amount of money that can be raised in this way.

Special Assessments

The essential characteristic of a special assessment is that it must confer some direct and special benefit to the property, or properties, being assessed. Special assessments for stormwater are most workable in very localized applications. For example, improving a ditch or channel that directly serves a few properties or a relatively small area is an appropriate project for special assessment funding. A special assessment is based on the premise that the work being done enhanced the value of the properties assessed in an amount at least equal to the amount of the assessment. Like service fees, special assessments are intended for a specific purpose rather than simply as a revenue generating mechanism. A common requirement of assessments is that there must be a rational linkage (nexus) between the use of the revenue derived from the assessment and the benefit to the party to whom it is applied. Assessments may be based on property value (ad valorem) or other factors (non-ad valorem) such as frontage along a street or sidewalk improvement.

In Virginia, one tool available for the creation of a special assessment for localized areas of a jurisdiction is the service district. The Code of Virginia (§15.2-2400) spells out that "Any locality may by ordinance, or any two or more localities may by concurrent ordinances, create service districts within the locality or localities... Service districts may be created to provide additional, more complete, or more timely services of government than are desired in the locality or localities as a whole." Service districts can provide a wide variety of services, and are usually used for water and sewer services, garbage removal and disposal services, and private street and road maintenance.



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Service districts have not been used to fund holistic stormwater management in Virginia. While “stormwater management” services are not called out specifically, §15.2-2403(1) notes several specific services that are tangentially related to stormwater management, including the ability “to construct, maintain, and operate such facilities and equipment as may be necessary or desirable to provide additional, more complete or more timely governmental services... including but not limited to... street cleaning (and) snow removal.” In addition, changes to §15.2-2403(1) enacted in the 2003 session of the General Assembly includes similar authority to “control infestations of *insects that may carry a disease that is dangerous to humans*” (HB1881) which could be tied to concerns over standing water in the storm sewer system and stormwater BMPs. These service districts also have the power to levy and collect “an annual tax upon any property in such service district subject to local taxation to pay, either in whole or in part, the expenses and charges for providing the governmental services authorized...” (§15.2-2403(6)). These funds must be segregated from General Fund dollars and be expended in the district in which they were raised.

Application in Fairfax County In Fairfax County, several service districts and special tax districts have been created for various purposes. These are presented in Table 6. However, none of these districts are for stormwater management, nor has the County ever considered the creation of a service district for stormwater.



Table 6: Service Districts/Special Tax Districts in Fairfax County (FY 2004)

Leaf Collection	\$0.01 per \$100 of assessed value on residential, commercial, and industrial properties within sanitary districts.
Refuse Collection	\$210.00 annually within sanitary districts.
Gypsy Moth Control	\$0.001 per \$100 of the valuation of real estate within Fairfax County.
Water Service Districts	Clifton Forest Water Service District. On any lot within the district, an annual assessment of \$661 for thirty years commencing July 1, 1993. The Colchester Road-Lewis Park Water Service District. On any lot within the district, an annual assessment of \$959 commencing January 1, 2003 for thirty years.
Reston Community Center	This special tax district operates with a levy of \$0.052 per \$100 of assessed value on properties located in the district.
McLean Community Center	This special tax district operates on a levy of \$0.028 per \$100 assessed value on properties located in the district.
Burgundy Village Community Center	This special tax district operates on a levy of \$0.02 per \$100 assessed value on properties located in the district.
Route 28 Transportation Tax District	This special tax district operates on a levy of \$0.20 per \$100 assessed value on commercial and industrial zoned property, or property used for commercial or industrial purposes within the district. This tax levy does not apply to residential property.

Pro-Rata Shares (PRS)

Under the Code of Virginia (§15.2-2243), “A locality may provide in its subdivision ordinance for payment by a subdivider or developer of land of the pro rata share of the cost of providing reasonable and necessary sewerage, water, and drainage facilities, located outside the property limits of the land owned or controlled by the subdivider or developer but necessitated or required, at least in part, by the construction or improvement of the subdivision or development;...” The enabling legislation specifically includes drainage work



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for the protection of water quality and the mitigation of increased stormwater flows as permissible uses of these funds. Funding is typically held in a cash escrow account until such time as the stormwater management facility or BMP is constructed. Funds must be utilized for facility or BMP construction within twelve years of the date they were posted. If not, the posted cash escrow reverts to a tax credit on the real estate taxes due on the property at the time of escrow expiration. Pro-rata accounts are typically most effective in communities experiencing significant, sustained growth.

Application in Fairfax County Fairfax County operates under a Pro-Rata Shares (PRS) program approved by the Board of Supervisors in 1991. Typical projects constructed with pro-rata share funds address flood control, stormwater drainage issues, severe streambank erosion, and impaired or reduced stormwater quality. Completion of the County's system of regional ponds is a major purpose of the program. However, County budget documents note that the program is insufficient to cover all the County's stormwater capital improvement needs. This is reflected in a statement in the County's Regional Ponds Report that funding has been available to implement only one-third of the planned 150 regional ponds envisioned for the County.



From 1992 through 2004, the PRS program has generated a total of \$41.2 million in revenue for stormwater related projects. Since \$7.8 million was rolled over from the former PRS program, revenue over the last 12 years has averaged \$2.8 million per year. Most of that revenue has been allocated to specific projects, with only \$1 million in recently received revenue not yet being allocated. \$16.1 million in PRS funds were actually spent during this time period, while another \$4.8 million is currently encumbered due to contracts and agreements.¹ Therefore, the County has a total of \$19.3 million allocated to projects that are still awaiting construction or further design.

The \$19.3 million in unencumbered PRS funding can be broken out into the following approximate dollar amounts per priority area:

\$5 million	Regional pond projects on hold.
\$4 million	Regional ponds to be implemented over the next two years.
\$4 million	Watershed plan projects.
\$6 million	Various stormwater projects.

Fairfax County faces two major challenges associated with the PRS program. The first challenge is that because the PRS program is driven by new development, it will eventually cease to serve as a major revenue source once the County reaches build-out. If this is estimated to occur in approximately 20 years, the County anticipates that the revenue generating capacity of the PRS program between 2004 and 2024 will be approximately \$45 million, or an average of \$2.2 million per year. The second challenge is that while the total life-span of the PRS program is about 20 years, many watersheds, particularly in the eastern portions of the County, are currently at or near build-out. Because PRS funds must be spent in the same watershed where they were generated, many of the County's older urbanized areas will not be able to rely of PRS funds to solve evolving stormwater issues such as stream restoration, bacteria contamination, and infrastructure repair and rehabilitation. An illustration of this point is to compare the Cameron Run watershed, which

¹ The average annual PRS expenditure between 1998 and 2003 was \$1.5 million. In 2004 this increased to \$2.1 largely due to the implementation of regional ponds along rapidly developing Route 29 corridor and the watershed planning program.



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was developed primarily during the 1950s and 1960s, with the Cub Run watershed, which is now experiencing rapid growth. While both watersheds have significant stormwater issues, over the past 10 years the PRS program has generated an average of \$17,852 per square mile per year in the less densely populated Cub Run watershed. By contrast, the PRS program generated an average of only \$4,693 per square mile in the more densely populated Cameron Run.

Watershed Improvement Districts

The Code of Virginia (§10.1-614 through 635) allows for the creation of watershed improvement districts (WIDs), noting that “Whenever it is found that soil and water conservation or water management within a soil and water conservation district or districts will be promoted by the construction of improvements to check erosion, provide drainage, collect sediment or stabilize the runoff of surface water, a small watershed improvement district may be established within such soil and water conservation district or districts... (§10.1-614)” Statutorily, WIDs have the power to levy and collect taxes and/or service charges to be used for the specific purposes for which the WID was created. WIDs are not widely utilized as they require a two-thirds majority vote via a referendum of landowners in the proposed district for both district creation and district tax and fee levying authority.

Application in Fairfax County Only two WIDs currently exist in Virginia, including Lake Barcroft in Fairfax County. The revenue generating capacity of a WID can be significant, since it is typically linked to real property value and included on the real property bill at a pre-established rate. For example, Lake Barcroft in FY 2005 set the assessment at \$0.113 per \$100/assessed value for a total of \$610,000 in annual receipts. However, while the enabling legislation for WIDs is broad enough to potentially allow a WID to become a primary funding source for a community-wide stormwater management program, the practical applications and limitations of this mechanism have not led to any such use as a primary resource.



It is also important to note that the annual budget and assessment rate for a WID in Fairfax County is subject to review and approval by the Northern Virginia Soil and Water Conservation District, and then the Virginia Soil and Water Conservation Board. In addition, a separate WID Board of Trustees must be elected to manage the fiscal affairs of the WID.

In-Lieu-Of-Construction Fees

The major advantage of in-lieu-of-construction fees is that revenue from smaller projects can be combined to be used on a regional basis, or where measures can have the most impact. In-lieu-of-construction fees also allow a locality to gain some benefit if it is determined that a stormwater requirement should be waived or reduced due to site specific constraints. A disadvantage of in-lieu-of programs is that the revenue stream is dependent upon the pace and nature of development from year-to-year. As a result, in-lieu-of fees are usually best applied to one-time projects or programs.

Application in Fairfax County Fairfax County had an in-lieu-of-construction fee system until the adoption of the Pro-Rata Shares program in the early 1990s. At that time, the County determined that the two programs were in conflict and the in-lieu-of-construction fee system was abolished. Currently, if a stormwater requirement is waived, there is no monetary recuperation.



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Neighboring Arlington County and the City of Alexandria have adopted fee-in-lieu-of programs under their Chesapeake Bay Preservation Ordinances. Under these programs, land disturbers may, under specific circumstances, pay into a fund (Watershed Management Fund in Arlington/Water Quality Improvement Fund in Alexandria) in lieu of constructing an on-site stormwater management facility. Payment into the fund is based on a dollar amount per square foot of impervious surface cover that would need to have otherwise been treated. In Arlington, the current fee of \$2.50 per square foot of impervious surface cover was set in February 2003. Alexandria has not yet set a rate under its newly revised ordinance. In Arlington County, it is estimated that the Watershed Management Fund has a short-range annual revenue generation capacity of approximately \$300,000.

Federal and State Funding Opportunities

There are very limited federal and state funding mechanisms available to provide ongoing support for local stormwater management programs. Federal involvement in stormwater management (other than regulatory programs) is typically limited to advisory assistance, cooperative programs such as those provided by the United States Geological Survey and the United States Army Corps of Engineers, and emergency response. The Commonwealth of Virginia has stormwater initiatives in both the Department of Environmental Quality and the Department of Conservation and Recreation.

One way that many communities have succeeded in acquiring limited funding for stormwater management projects is through grants. Federal and state governments, as well as select foundations, have provided project funding for communities that are willing to propose and implement innovative projects to control stormwater runoff or restore streambeds to a more natural condition. In Virginia, the Water Quality Improvement Act (WQIA) was established in the 1990s to support Tributary Strategy implementation through the creation of the Virginia Water Quality Improvement Fund (WQIF). However, the WQIF allocation formula for state funding leaves it vulnerable to the ebb and flow of Virginia's economic climate, and thus has been an inconsistent funding source. Another major source of grant funding is the Chesapeake Bay Program's Small Watershed Grants Program. In 2003, the Chesapeake Bay Program disbursed approximately \$2.75 million to 75 recipients, with a typical range of \$20,000 to \$40,000 per recipient. However, both the WQIF and the Small Grants Program exclude projects involving direct regulatory compliance, thus rendering them unusable for direct funding of mandated permit compliance activities.

A common requirement of grant funding is local cost-share. One advantage of having a dedicated source of revenue for stormwater is a greater ability to take advantage of state and federal cost-share programs. For instance, Prince George's County, Maryland, which has a dedicated source of stormwater funding, takes advantage of over 90% of federal flood control cost-share opportunities.

Application in Fairfax County Recent examples of state and federal funding received by Fairfax County include (approximately):



- \$6 million in federal funding earmarked for rehabilitation of dams associated with four PL 566 flood control facilities in the Pohick Creek watershed.
- \$250,000 provided by the Federal Emergency Management Agency in response to Hurricane Isabel to re-map floodplains in the New Alexandria area; and,



- \$2.1 million provided by the U.S. Army Corps of Engineers (in addition to \$211,000 in cost share provided by Fairfax County and Prince William County) to dredge the Occoquan River.

General Obligation and Revenue Bonding

Virginia statutes (Code of Virginia §15.2-2114) authorize the use of bonds by local governments to finance capital improvements to infrastructure and equipment for stormwater control programs. Bonds are not a revenue source, but a method of borrowing. They are most commonly used to pay for major capital improvements and acquisition of other costly capital assets such as land and major equipment. Capital improvements can also be funded through annual budget appropriations, but annual revenues are often not sufficient to pay for major capital investments.

The chief advantage of bonding is that it allows construction of major improvements to be expedited in advance of what can be funded from annual budget resources by spreading the cost over time. In the case of stormwater management, expediting a capital project by several years through bonding may result in significant public and private savings if flooding, other damaging impacts, and inflation of land acquisition and construction costs are avoided. The major disadvantage of bonding is that it is essentially a loan that incurs an interest expense, which increases the overall cost of capital projects, land acquisition, etc.

The two most prevalent types of bonding available are general obligation (GO) bonding and revenue bonding. GO bonding incurs a debt that has "first standing" with regard to public assets and is backed by the "full faith and credit" of the issuing agency. Because of this, public approval through referendum is required for initial issuance of GO bonds. All revenues, including various taxes, may be used to service GO debt. Revenue bonding is supported and ensured solely by revenues that are typically linked to the capital expenditure and recovered through some type of fee or specific tax. Creation of a separate source of revenue that is earmarked specifically for stormwater management (e.g., a stormwater service fee) would allow the County to sell revenue bonds if market acceptance was attained. However, revenue bonding would not be backed by the County's full faith and credit, and would typically incur a slightly higher interest rate.

Generally speaking, bonds are not intended for use as a funding mechanism for day-to-day operations. However, some costs can be viewed either as a capital or operating expense. The lack of a clear distinction between remedial repairs and new construction, for example, results in bonding sometimes being used for major repairs that might also be considered an operating expense.

Application in Fairfax County The last GO bond for stormwater infrastructure approved by Fairfax County voters was the 1988 Storm Drainage Bond Referendum. The bond was in the amount of \$12 million. The last bonds were recently sold, and all money is obligated and will be spent in the next few years. It is worth noting that not all bonds pass the scrutiny of the voters. A 1990 stormwater bond presented to Fairfax County voters was defeated. There have been no additional stormwater bond attempts since that time.



Other Innovative Funding Arrangements

While the above represent the most typical sources of revenue for stormwater, Fairfax County has had success in creating innovative funding arrangements to meet specific needs. For example, the County has just recently started to require maintenance escrow accounts for innovative BMPs and low impact development techniques such as rain gardens. While the arrangement doesn't represent a new source of funding for new projects, it does create an insurance policy so that County funds will not need to be spent correcting for maintenance deficiencies on private property. While these agreements are currently done on an ad hoc basis depending on the facility, this practice may grow if it is successful.

The County is also implementing an innovative program with respect to state and federal wetland mitigation banking requirements. Until recently, mitigation could take place anywhere within two large watersheds (Upper Potomac and Occoquan) – and not necessarily within Fairfax County. As a result of conversations with the Army Corps of Engineers, developers pay the Nature Conservancy, which keeps the funding in escrow until there is a local project. There is no estimate yet on the revenue generating capacity of this mechanism.

D. Summary of General Applicability of Revenue Sources

The following is a comparative summary of the generating capacity, equitability, and stability of the primary and secondary revenue sources discussed in this paper.

Revenue Source	AREA OF APPLICABILITY								
	Generating Capacity			Ability of Source to Finance Stormwater Equitably			Stability of the Source		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
Real Property Tax (General Fund)	General Fund revenues can provide for the full cost of service to the community.			Owners of real property pay regardless of contribution to stormwater infrastructure.			Stability for stormwater dependent on other annual budget priorities.		
Stormwater Utility Fee	Stormwater user fees can provide for the full cost of service to the community.			Owners of real property based on contribution to stormwater infrastructure.			Based on assessment of stormwater needs.		
Inspection/ Review Fees	Relatively minor, but can fund substantial amounts of specific program functions.			Strong link between the source and the regulated activity.			Based on rate of development.		
Special Assessments	Assessment is determined by cost of improvements needed. Generation capacity significant for localized projects.			Used for a small area where a specific improvement is required and specific properties directly benefit.			Stable source of revenue once established.		



Revenue Source	AREA OF APPLICABILITY								
	Generating Capacity			Ability of Source to Finance Stormwater Equitably			Stability of the Source		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
Pro-Rata Shares									
	Medium to high depending on the watershed. Used to make regional improvements over time. Typically not sufficient to cover the cost of all improvements.			Funding provided by those that impact the drainage basin. In newly developing areas, this can be highly equitable.			Based on rate of development.		
In-Lieu-of-Construction Fee									
	Used to combine revenue for use in larger projects, or where greater water quality benefits can be realized.			Same issue as pro-rata shares. Depending on what the fee is in lieu of, there may need to be a nexus between how the funding is spent and water quality improvements.			Based on rate of development.		
Watershed Improvement District									
	Medium to high based on area of the WID and the assessment rate. Difficult to establish.			Must be a direct link between the source and beneficiaries.			Based on assessment of stormwater needs.		
State/Federal Grants									
	Typically less than \$100,000. \$30,000 to \$50,000 common.			Use is dictated by the grant source.			Used for specific demonstration projects, not a stable source of revenue.		
Bonding									
	Capacity can be significant.			Bond debt paid only by all taxable property owners regardless of contribution to stormwater infrastructure. No non-taxable properties contribute to reducing the debt.			Applicable for one-time capital expenses. Not meant as a source of revenue for ongoing expenses.		

